

CLAIMS

What is claimed is

1. An apparatus for detecting and indicating faults on a computer motherboard comprising:
 - a microprocessor capable of requesting and retrieving a plurality of diagnostic instructions, said microprocessor executing said retrieved plurality of diagnostic instructions when said microprocessor receives an initialization signal;
 - a nonvolatile memory device having said plurality of diagnostic instructions stored, said plurality diagnostic instructions initializing said computer motherboard; and
 - a visual indicator coupled to said microprocessor indicating a fault on said computer motherboard if said computer motherboard is not successfully initialized.
2. The apparatus for detecting and indicating faults on a computer motherboard as in claim 1, wherein said visual indicator is turned on when power is applied to said computer motherboard.
3. The apparatus for detecting and indicating faults on a computer motherboard as in claim 1, wherein said visual indicator is turned off upon detection of a fault on said computer motherboard.
4. The apparatus for detecting and indicating faults on a computer motherboard as in claim 1, further comprising a flash circuit activating a flash visual indicator upon detection of a fault on a memory subsystem.
5. The apparatus for detecting and indicating faults on a computer motherboard as in claim 1, wherein said nonvolatile memory device stores power-on self-test diagnostic instructions and basic input and output system instructions.
6. The apparatus for detecting and indicating faults on a computer motherboard as in claim 1 wherein said visual indicator is a light emitting diode.

7. The apparatus for detecting and indicating faults on a computer motherboard as in claim 1 wherein said visual indicator is an external visual indicator.
8. The apparatus for detecting and indicating faults on a computer motherboard as in claim 1 wherein said visual indicator is an internal visual indicator.
9. The apparatus for detecting and indicating faults on a computer motherboard as in claim 7, further comprising an I/O port coupled to said microprocessor, said microprocessor providing signals to said external visual indicator via said I/O port.
10. The apparatus for detecting and indicating faults on a computer motherboard as in claim 1, wherein said computer motherboard includes integrated circuits mounted on said computer motherboard.

11. A method for detecting and indicating faults on a computer motherboard comprising the steps of:
 - receiving an initialization signal to start a computer system;
 - turning on a visual indicator when power is applied to said computer motherboard;
 - requesting a plurality of diagnostic instructions stored a nonvolatile memory device upon reception of an initialization signal;
 - retrieving said plurality of diagnostic instructions;
 - initializing said computer motherboard by executing said retrieved plurality of diagnostic instructions; and
 - turning off said visual indicator when said computer motherboard is successfully initialized.
12. The method for detecting and indicating faults on a computer motherboard as in claim 11, further comprising the steps of:
 - initializing a memory subsystem; and
 - activating a flash visual indicator when a fault is found on said memory subsystem.
13. The method for detecting and indicating faults on a computer motherboard as in claim 11, wherein said nonvolatile memory device stores power-on self-test diagnostic instructions and basic input and output system instructions.
14. The method for detecting and indicating faults on a computer motherboard as in claim 11, wherein said visual indicator is a light emitting diode.
15. The method for detecting and indicating faults on a computer motherboard as in claim 11, wherein said visual indicator is an external visual indicator.
16. The method for detecting and indicating faults on a computer motherboard as in claim 11, wherein said visual indicator is an internal visual indicator.

17. The method for detecting and indicating faults on a computer motherboard as in claim 15, further comprising the step of initiating an I/O port coupled to said microprocessor, said microprocessor providing signals to said external visual indicator via said I/O port when said computer motherboard is not initialized successfully.
18. The method for detecting and indicating faults on a computer motherboard as in claim 11, wherein said computer motherboard includes integrated circuits mounted on said computer motherboard.

19. An apparatus for detecting and indicating faults in a computer motherboard comprising:
 - means for receiving an initialization signal to start a computer system;
 - means for turning on a visual indicator when power is applied to said computer motherboard;
 - means for storing a plurality of diagnostic instructions;
 - means for requesting and retrieving said plurality of diagnostic instructions upon reception of an initialization signal;
 - means for executing said retrieved plurality of diagnostic instructions to initialize said computer motherboard;
 - means for turning off said visual indicator when no fault is found on said computer motherboard.
20. The apparatus for detecting and indicating faults on a computer motherboard as in claim 19, further comprising:
 - means for initializing a memory subsystem; and
 - means for activating a flash indicator when a fault is found on memory subsystem.
21. The apparatus for detecting and indicating faults on a computer motherboard as in claim 19, wherein said visual indicator is an external visual indicator.
22. The apparatus for detecting and indicating faults on a computer motherboard as in claim 19, wherein said visual indicator is an internal visual indicator.
23. The apparatus for detecting and indicating faults on a computer motherboard as in claim 19, wherein said storing diagnostics means includes means for storing power-on self-test diagnostic instructions and basic input and output system instructions.

24. The apparatus for detecting and indicating faults on a computer motherboard as in claim 19, wherein said visual indicator is a light emitting diode.
25. The apparatus for detecting and indicating faults on a computer motherboard as in claim 21, further comprising means for providing a signal to said visual indicator via an I/O port.

26. An apparatus for detecting and indicating faults on a computer motherboard comprising:
- a host bus for transmitting address and data signals;
 - a nonvolatile memory device couple to said host bus having a plurality of diagnostic instructions stored, said a plurality of diagnostic instructions including power-on self-test diagnostic instructions and basic input and output system instructions;
 - a microprocessor couple to said host bus, said microprocessor capable of request and retrieving said plurality of diagnostic instructions upon reception of an initialization signal to start a computer system and executing said retrieved plurality of diagnostic instructions;
 - a visual indicator coupled to said microprocessor being turned on when power is applied to said computer motherboard;
 - a general I/O port coupled to said microprocessor turning said visual indicator off when said computer mother board is not initialized successfully, said microprocessor initializing said computer motherboard by executing said a plurality of diagnostic instructions; and
 - a flash circuit coupled to said microprocessor flashing said visual indicator when a failure is found in a memory subsystem after said computer motherboard initialization.
27. The apparatus for detecting and indicating faults on a computer motherboard as in claim 26, wherein said external visual indicator is located on panel of said computer system.
28. The apparatus for detecting and indicating faults on a computer motherboard as in claim 26, wherein said computer motherboard comprises integrated circuit mounted on said computer motherboard.